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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/633,471

08/01/2003

William James Hughes

AHUG.011

4799

51460 7590 04/19/2007

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EXAMINER

HEWITT, JAMES M

ART UNIT

PAPER NUMBER

3679

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/633,471	Applicant(s) HUGHES, WILLIAM JAMES	
	Examiner James M. Hewitt	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/2/07 & 1/30/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10,13-18,20-26,30-36,38,39,41-47,50,52-59,63,65 and 66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-10,13-18,21,22,24-26,30-36,38,39,41-47,50,52,57-59,63,65 and 66 is/are rejected.
- 7) ☒ Claim(s) 6, 20, 23, 53-56 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/2/07 has been entered.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The following does not find proper antecedent basis in the specification: the subject matter on lines 17-21 and 26-28 of claim 1; the subject matter on lines 19-22 of claim 18.

Claim Objections

Claims 1, 3-10, 13-17, 18, 20-26, 30-34, 35-36, 38-39, 41, 43-46, 50, 52-59, 63 and 65-66 are objected to because of the following informalities:

In claim 1, line 4, "connectors" should be "conduits".

In claim 1, line 13, "center spline" should be inserted after "plug".

In claim 1, line 13, "plug outer" should be inserted before "splines".

In claim 1, line 15, "receptacle" should be inserted after "socket".

In claim 1, line 15, "receptacles" should be replaced with "socket receptacle splines".

In claim 18, line 21, the phrase "the plurality of socket receptacles, the plurality of socket splines" should be replaced with "the socket receptacle, the plurality of socket receptacle splines".

In claim 18, line 28, "the alignment" lacks proper antecedent basis.

In claim 18, line 29, "the plurality of orientations" lacks proper antecedent basis.

Claims 20-22 and 24-26 should depend from claim 18. Claim 19 is canceled.

In claim 30, "the first tubing section" and "the second tubing section" each lack proper antecedent basis.

In claim 31, "the first tubing section" and "the second tubing section" each lack proper antecedent basis.

In claim 32, "the first tubing section" and "the second tubing section" each lack proper antecedent basis.

In claim 33, "the first tubing section" and "the second tubing section" each lack proper antecedent basis.

In claim 34, "the first tubing section" and "the second tubing section" each lack proper antecedent basis.

Claims 30-34 should depend from claim 18. Claim 19 is canceled.

In claim 35, lines 16-17 and 22, "the plurality of first conduits" lacks proper antecedent basis.

In claim 35, lines 19 and 23, "the plurality of second conduits" lacks proper antecedent basis.

In claim 39, line 1, "the plurality of first conduits" lacks proper antecedent basis.

In claim 39, line 2, "the plurality of second conduits" lacks proper antecedent basis.

In claim 50, it seems incorrect for the preamble to recite an apparatus for connecting a plurality of casing sections together, when the body of the claim recites the casing sections.

In claim 50, lines 14-15, the phrase "corresponding...and the receptacle splines" should be replaced with the phrase "receptacle and a plurality of receptacle splines, wherein the receptacle and plurality of receptacle splines form a cavity".

In claim 50, line 16, "a" should be "the".

In claim 55, line 1, "assembly" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 7-10, 13-17, 35-36, 38-39, 41 and 43-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Moon (US 2,750,569).

With respect to claim 1, Moon discloses a first tubing section (1) and a second tubing section (2); a plug fixedly engaged to a first tubing section proximate end and having a plug center spline (as at 3, with splines 10 disposed thereon), a plurality of plug outer splines (10 not spline 25), and a plurality of first conduits (26); a socket fixedly engaged to a second tubing section distal end and having a socket receptacle, a plurality of socket receptacle splines (defined by splines 4 not 24) and a plurality of second conduits (holding prongs 21); a securing device (11) for securing the plug to the socket; wherein the plug may be joined to the socket in a plurality of orientations (vertically, horizontally, inclined, declined, relative to a given vantage point) so that, in each of the orientations, the plurality of first conduits automatically align with the plurality of second conduits (col. 3, ll. 32-55) in an alignment; and wherein the plug, the plurality of splines and the plurality of first conduits are of unitary construction with each other (they are assembled as and operate as one unit); and wherein the socket, the plurality of receptacles and the plurality of second conduits are of unitary construction with each other (they are assembled as and operate as one unit); wherein the plug center spline forms a cylindrical passage having an inside diameter that is the same as an inside plug wall diameter; wherein the socket receptacle forms a socket cylindrical passage having a socket cylindrical passage diameter that is the same as an inside diameter of an inside wall of the socket; and wherein a cavity created by the socket receptacle and the plurality of socket receptacle splines is shaped so that the plug center spline and the plurality of plug outer splines will intermesh with the socket receptacle and the socket receptacle splines when the plug and socket are plugged

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together; and wherein the plurality of plug outer splines and the plurality of socket receptacle splines are coaxially symmetric and have the same dimensions so that the alignment can be achieved in a plurality of orientations.

With respect to claim 3, wherein the securing device is a coupling collar adapted for connecting it to the plug and the socket, the coupling collar initially engaged with the plug. Refer to Fig. 2.

With respect to claim 7, wherein the first tubing section and the second tubing section are connectable in two distinct orientations.

With respect to claim 8, wherein the first tubing section and the second tubing section are connectable in three distinct orientations.

With respect to claim 9, wherein the first tubing section and the second tubing section are connectable in four or more distinct orientations.

With respect to claim 10, wherein the first conduits and second conduits are adapted to receive a plurality of wires, each capable of carrying an electrical current, and wherein the plug has an interior lip (defined by clamp 16) so that the each of the plurality of wires can pass through each of the plurality of first conduits and into a casing interior.

With respect to claim 13, wherein the first tubing section and the second tubing are pipe.

With respect to claim 14, wherein the first tubing section and the second tubing section are casing.

With respect to claims 15-16, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

With respect to claim 17, wherein the first tubing section and the second tubing are connectable in a plurality of orientations.

With respect to claim 35, discloses a method of using a tubing joint to join two tubing sections together, comprising: using a first tubing section (1) having a plug attached that has a plug center spline (as at 3, with the splines 10 disposed thereon) and a plurality of plug outer splines (10, not 25), and using a second tubing section (2) having a socket attached that has a cavity created by a socket receptacle and a plurality of socket receptacle splines (defined by splines 4, not 24); aligning the first tubing section coaxially with the second tubing section; engaging the plug of the first tubing section with the socket of the second tubing section so that the plug center spline and the plurality of plug outer splines intermesh with the socket receptacle and the socket receptacle splines in the cavity; securing the first tubing section to the second tubing section (col. 3, ll. 32-55); and wherein the plug, the plug center spline, the plurality of plug outer splines and the plurality of first conduits (26) are of unitary construction with each other (they are assembled and operate as one unit); and wherein the socket, the socket receptacle, the plurality of socket receptacle splines and the plurality of second conduits (holding prongs 21) are of unitary construction with each other (they are assembled and operate as one unit); wherein the plurality of plug outer splines and the

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plurality of socket receptacle splines are coaxially symmetric and have the same dimensions so that the plurality of first conduits can be aligned with the plurality of second conduits in a plurality of orientations.

With respect to claim 36, wherein the aligning step further comprises: positioning the first tubing section coaxially with the second tubing section such that the proximate end of the first tubing section is in close proximity with the distal end of the second tubing section. Refer to col. 3, ll. 32-55.

With respect to claim 38, wherein the first tubing section is vertically above the second tubing section.

With respect to claim 39, further comprising the step of inserting a plurality of first connectors (contacts) in the plurality of first conduits and a plurality of second connectors (21) in the plurality of second conduits.

With respect to claim 41, wherein a coupling collar (11) is used to secure the first tubing section to the second tubing section.

With respect to claim 43, wherein the first tubing section and the second tubing section are pipe.

With respect to claim 44, wherein the first tubing section and the second tubing section are casing.

With respect to claims 45-46, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Claims 35-36, 38-39, 41 and 43-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Curlett (US 4,836,305).

With respect to claim 35, from Figs. 2, 6 and 11, Curlett discloses a method of using a tubing joint to join two tubing sections together, comprising: using a first tubing section having a plug (105) attached that has a plug center spline (100) and a plurality of plug outer splines (100), and using a second tubing section having a socket (103) attached that has a cavity created by a socket receptacle and a plurality of socket receptacle splines (102); aligning the first tubing section coaxially with the second tubing section; engaging the plug of the first tubing section with the socket of the second tubing section so that the plug center spline and the plurality of plug outer splines intermesh with the socket receptacle and the socket receptacle splines in the cavity; securing (via 84) the first tubing section to the second tubing section; and wherein the plug, the plug center spline, the plurality of plug outer splines and the plurality of first conduits (in 116) are of unitary construction with each other (they are assembled and operate as one unit); and wherein the socket, the socket receptacle, the plurality of socket receptacle splines and the plurality of second conduits (in 126) are of unitary construction with each other (they are assembled and operate as one unit); wherein the plurality of plug outer splines and the plurality of socket receptacle splines are coaxially symmetric and have the same dimensions so that the plurality of first conduits can be aligned with the plurality of second conduits in a plurality of orientations.

With respect to claim 36, wherein the aligning step further comprises: positioning the first tubing section coaxially with the second tubing section such that the proximate end of the first tubing section is in close proximity with the distal end of the second tubing section.

With respect to claim 38, wherein the first tubing section is vertically above the second tubing section.

With respect to claim 39, further comprising the step of inserting a plurality of first connectors (118) in the plurality of first conduits and a plurality of second connectors (128) in the plurality of second conduits.

With respect to claim 41, wherein a coupling collar (84) is used to secure the first tubing section to the second tubing section.

With respect to claim 43, wherein the first tubing section and the second tubing section are pipe.

With respect to claim 44, wherein the first tubing section and the second tubing section are casing.

With respect to claims 45-46, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

With respect to claim 47, Curlett discloses in a drill string of the type comprising a plurality of drill pipe sections arranged in end to end relation from a location above the ground to a lower location adjacent to an orientable tool connected to a bottom end of

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the drill string, and wherein the adjacent ends of the drill pipe sections are connected to each other to form a plurality of spaced pipe joints extending downwardly from the ground to the tool, an improvement comprising: a drill string in alignment from a top end to the bottom end thereof; wherein each pipe section is provided with a lower end having a center spline (100) and a plurality of outer splines (100) and an upper end having a receptacle and a plurality of receptacle splines (102); wherein the plurality of plug outer splines and the plurality of socket receptacle splines are coaxially symmetric and have the same dimensions so that the lower end of the one pipe section can be mated with the upper end of another pipe section when the plurality of outer splines and the plurality of receptacle splines are intermeshed; wherein the outer splines and the receptacle splines can fit together in more than one orientation; wherein the adjacent ends of the sections are threaded and wherein an internally threaded collar (84) is received over the threaded ends to hold the drill pipe sections of each pipe joint together.

Claim 47 is rejected under 35 U.S.C. 102(b) as being anticipated by Wilson (US 1,781,091).

With respect to claim 47, Wilson discloses in a drill string of the type comprising a plurality of drill pipe sections arranged in end to end relation from a location above the ground to a lower location adjacent to an orientable tool connected to a bottom end of the drill string, and wherein the adjacent ends of the drill pipe sections are connected to

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each other to form a plurality of spaced pipe joints extending downwardly from the ground to the tool, an improvement comprising: a drill string in alignment from a top end to the bottom end thereof; wherein each pipe section is provided with a lower end having a center spline (6) and a plurality of outer splines (6) and an upper end having a receptacle and a plurality of receptacle splines; wherein the plurality of plug outer splines and the plurality of socket receptacle splines are coaxially symmetric and have the same dimensions so that the lower end of the one pipe section can be mated with the upper end of another pipe section when the plurality of outer splines and the plurality of receptacle splines are intermeshed; wherein the outer splines and the receptacle splines can fit together in more than one orientation; wherein the adjacent ends of the sections are threaded and wherein an internally threaded collar (3) is received over the threaded ends to hold the drill pipe sections of each pipe joint together.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-5, 7-10, 13-18, 21-22, 24-26, 30-36, 38-39, 41, 43-47, 50, 52, 57-59, 63 and 65-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al (US 3,829,816) in view of Bohlen et al (US 6,116,658).

Barry et al discloses a first tubing section (11) and a second tubing section (12); a plug (26) and a plurality of splines fixed to the first tubing section and a socket (27) and a plurality of spline receptacles fixed to the second tubing section; the plug having a plurality of first conduits (70) having conductors mounted therein, the socket having a plurality of second conduits (53) having conductors mounted therein. From col. 9, ll. 44-45, additional conductor wires can be mounted in each pipe section. The pin member (11) and box member (12) are positioned adjacent one another and aligned, and the female contact (55) of one member registers with the female contact (75) of the other. A male electrical connector (90) is used to connect the female contacts. From col. 9, ll. 19-22, the male connector (90) can be formed integrally with one of the terminal end of one of the pipe members. The plug, plug splines and conduits are all one piece. The socket, the socket receptacle, socket receptacle splines and conduits are all one piece. Barry et al's device includes an internally threaded securing collar (15) that secures the two tubing sections together. Barry et al fails to teach the claimed plug/plug spline and socket/socket spline arrangement. Bohlen et al teaches a pipe coupling comprising a pin member having a plug, a plug center spline and a plurality of plug outer splines disposed on the center spline, and a box member having a socket, a socket receptacle and a plurality of socket receptacle splines. The socket receptacle receives the plug center spline, and the plug outer splines intermesh with the socket receptacle splines. The plug outer splines and socket receptacles splines are coaxially symmetric and of the same dimensions such that the pin and box can be joined in a plurality of orientations. A securing collar having internal threads is used to connect the pin and

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box members. In view of Bohlen et al's teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Barry et al's spline arrangement with that of Bohlen et al's in order to prevent torsional loads applied to the tubes from being transmitted to the securing collar so that the collar and thus the tube members remain secured.

With respect to claims 4 and 21, threads (17) can be considered fine.

With respect to claims 5 and 22, the collar (15) has been interpreted as part of the socket. The collar includes threads (16), which can be considered coarse.-6 and 21-23,

With respect to claims 15-16, 32-33, 45-46 and 65-66, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Allowable Subject Matter

Claims 6, 20, 23 and 53-56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 1/2/07 have been fully considered but they are not persuasive.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Refer to the interpretations provided in the above 35 USC 102(b) rejections in view of Moon, Curlett and Wilson.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Hewitt whose telephone number is 571-272-7084.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMH
4/12/07



JAMES M. HEWITT
PRIMARY EXAMINER